1 Context and Objectives

The objective of this year's project is to build a data-intensive mobile application leveraging open data sources. The goal is to provide a valuable service to citizens.

The general idea is to maintain a database of supermarkets or markets and recipes by citizens. The application needs to be able to answer questions like what is the most nearby supermarket ? Where do I find the ingredients for a certain recipe ? How much does a recipe cost given that I buy the ingredients in a certain supermarket ? What is the footprint of a certain recipe given that I buy the ingredients in a certain supermarket ?

This mobile application should be implemented as an interactive program that (i) enables entering data about supermarkets by citizens, (ii) enables publishing and managing recipes locally (on the smartphone) but also globally (between citizens), (iii) establishes shopping lists based on user input or on recipes and guides the user while shopping, and (iv) provides the user with some relevant statistics on his/her shopping behaviour.

In this document, first, we describe the different user stories and, next, the non-functional requirements are stipulated.

2 User Stories

User stories are not always that clear or precise. It is the task of the students to study the stories, to ask the customers (i.e., the assistants) for clarification **during the project management session**. It is also the duty of the students to take responsibility and to make motivated choices.

Story number : 1 Group number :
Title : Managing supermarkets

Description : When the application is installed for the very first time, a database with supermarkets is made available. This database contains a list of supermarkets, each supermarket has an address, coordinates, and contains a list of products. Each product has a price and a country of origin. The application will concentrate on food, so the products are vegetables, meat, spices, dairy products, etc.
Users can rate a supermarket.
Users can add a supermarket that is not yet in the database.
Users can ask a list of the nearest supermarkets based on their coordinates. The user needs to be able to select the radius in which the shown supermarkets are located, around his location. If the user clicks on a supermarket, the address is shown together with a map and the list of available products.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

Story number : 2 Group number :
Title : Managing recipes

Description : Users can publish recipes. First of all, they can compose a recipe. The recipe has a name, a list of ingredients and a preparation description. It can have a price per person associated. The user has a set of recipes on his/her smartphone but (s)he can decide to publish a recipe. This recipe is then available for all other users of the application.
A user can also rate a recipe or give it another price.
The user can ask a list of recipes based on ingredients or a list of recipes is shown in alphabetical order.
It is also possible to list the ingredients of all recipes in alphabetical order.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

Story number : 3 Group number :
Title : Shopping list

Description : A user can make a shopping list. The user can just enter products and as such make a list. This list is saved and can be edited later on.
The user can also make a shopping list based on one or several recipes. By selecting one or multiple recipes out of a list of recipes, the ingredients of these recipes are assembled in a shopping list by the application. The user can edit the shopping list, e.g., to remove ingredients that (s)he still has at home.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

Story number : 4 Group number :
Title : Buying products

Description : When online, users can ask for a list of supermarkets that are nearby and that offer the cheapest ingredients based on a set of recipes or on their shopping list. Users can also ask for the supermarkets where they can find the products of their shopping list or of some recipes and where the products have the lowest footprint.
It can be that per shopping list or per set of recipes there is not exactly one supermarket that offers all ingredients but that the user has to go to several supermarkets to find all the necessary products.
Supermarkets can be rated by users based on their customer friendliness. The user can ask for the list of supermarkets based on their rating.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

Story number : 5 Group number :
Title : Enhanced shopping lists

Description : If a user has bought his/her products, the shopping list is annotated with the price paid for every product. This allows the user to calculate the price of a recipe given the bought products in a certain supermarket at a certain time. The user can publish this price. The other users can retrieve the following information : how much a recipe costed at a certain point in time for a certain supermarket.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

Story number : 6 Group number :
Title : Statistics

Description : A user can ask the application how much was spent on food during a certain month or a certain year. Also the average footprint of his recipes are available. The user can also ask how much (s)he spent in a certain supermarket. It is also possible to compare the cost of a certain recipe between different supermarkets.

Difficulty : 1 2 3
Introduced during iteration : 0
Status : to do
Notes : —

3 Non-functional Requirements

- The application should run on Android.
- The graphical user interface needs to be attractive and simple.
- The programming language is Java, possibly extended with libraries. Only free software can be used for both the final product and for tools. The choice of a certain library or tool must be justified on the basis of reliability, openness (e.g., to facilitate conversion) and simplicity. Moreover, an open and free library for certain (sub) functionalities can be used only after authorization from the customer.
- The system needs to be easy to install and installation needs to happen in a standard way.
- The design should be modular facilitating extension and replacement of components.